

Amendments to the Specification:

Please replace paragraph [0012] with the following amended paragraph.

[0012] The general method of implementing the present invention will be set out below. The goal, of course, is to be able to achieve maximum contrast between the object and the background, and the refinements in the basic invention are introduced as a means of reaching that goal. When using the invention, one first takes one or several shots of the object-plus-background with a light level and illumination pattern that is usually used for that purpose. During that series of shots the background that is used is one that presents a very high degree of reflection. In most of the embodiments of the invention, the background is chosen to provide retro-reflection. A retro-reflecting surface is one that reflects incident light back in the direction from which it came, regardless of the direction. Such surfaces are used on many highway signs and, more recently, on reflective tape placed on semi-trailer trucks. Note that retro-reflection is very different from both specular reflection (where the angle of reflection with the respect to the reflecting surface is equal to the angle of incidence of the light on that surface) and diffuse reflection, where regardless of the angle of incidence, the light is reflected through a range of angles. In addition to being as retro-reflective as possible, the background must have a very high albedo, that is, must reflect a very high proportion of the incident light.

Please replace paragraph [0020] with the following amended paragraph.

[0020] The most common way of producing the geometry that the present invention requires is to use the classic beam-splitting technique. In this technique, as applied in the present context, a partially silvered glass plate is deployed between the camera lens and the scene to be photographed. This plate is arranged so that the plane of the plate makes a 45° angle with the plane of the camera lens. More particularly, if the intense light beam used for the mask shot is to be directed vertically upon the plate and the principal axis of the lens is horizontal horizontal, the plate is

deployed so that its upper edge is farther from the lens than its lower edge. This plate intercepts light that normally is directed toward the lens, allowing a portion to pass through to the lens, but reflecting the rest downward. The fraction depends on the degree of silvering. More importantly for the operation of the present invention, the beam of intense light that is turned on for the mask shot is also split by the beam splitter. Part of it will continue straight up (assuming for definitiveness the geometry described above) and part of it will be reflected from the partially silvered plate in a direction at right angles to the vertical. For definitiveness, take that direction to be to the right of the direction of the original beam. By this means, a virtual light source has been created that satisfies the need of the technique. Even though the real high-beam light source is below the rest of the apparatus and directly directed straight upward, the light of this beam that is directed on the scene comes, for all physical purposes, from a point partway between the camera lens and the scene. Furthermore, that virtual light source is directed horizontally toward the scene traveling in a direction parallel to the camera's principal axis.

Please replace paragraph [0022] with the following amended paragraph.

[0022] Shadows created from a misalignment of the virtual light source image can be a source of significant shadow formation during the mask shot, shadow formation that reduces the sharpness of the background/object contrast. Thus it is important to provide a means of adjusting the silhouetting apparatus in the X and Y directions so as to be able to align the center of the virtual light source with the center of the camera lens, that is, to align the center of the virtual light source with the principal axis of the camera. Having the virtual source off to one side with will give rise to a shadow on the background on one or more sides of the object. It is also important to be able to make an adjustment in the Z direction (that is, of the vertical distance between the real light source and the beam-splitting plate) so that the distance of the light-beam aperture from the plate is equal to the distance of the camera iris from the plate. Failure to make this adjustment can give rise to parallax errors in the mask shot. The

adjustment in the Z-direction is specific to a given lens, as each type of lens can have a different iris placement. It is very important to make this adjustment before the image is produced, as parallax errors can be very difficult to edit out of an image afterwards.

Please replace paragraph [0024] with the following amended paragraph.

[0024] All things being equal, the goal is to maximize the fraction of the light incident on the background that is reflected by the retro-reflective surface that makes up the background. The earliest widespread use of retro-reflective surfaces probably dealt with road signs. Until very recently, the retro-reflectivity of those signs was based on building into them a myriad of little "corners" or cubes. These cubes are grouped in a grid pattern on a reflective sheet, that, unfortunately, is perceptible as a mosaic pattern in a photograph and, for that reason, that type of retro-reflective surface is not suitable for high-resolution commercial photography, although it ~~has provide~~ does provide an extremely high degree of reflectivity. The type of retro-reflective surface that is used in the Preferred Embodiment of the present invention is a sheet containing glass spheres evenly distributed across its surface. As indicated above, the background sheet in this context is referred to as the sweep. In the Preferred Embodiment, the sweep is a sheet uniformly covered with contiguous glass spheres. For the most part, the sweep is deployed so as to form a vertical plane behind the object of interest, a vertical plane that is substantially perpendicular to the principal axis of the camera.

Please replace paragraph [0033] with the following amended paragraph.

[0033] FIG. 1 is a diagrammatic illustration of the Preferred Embodiment of the apparatus and method according to the invention. A silhouetting device 10 is mounted on a conventional digital camera 16. Placed on a transparent support table 15 is an object 13 to be photographed and ultimately ~~be to appear~~ in a picture photograph that contains only an image of the object 13. Arranged behind the object 13 is a sweep 14 of retro-reflective sheeting consisting of a coating of small glass spheres.